

## REMARKS

Claims 1–31 are pending in the Application. Claims 1–7, 10–15, 17–22, and 24–31 are rejected under 35 U.S.C. § 103(a). Further, claims 1, 6–11, 14, 20–23, and 30 are provisionally rejected under non-statutory obviousness-type double patenting. The Examiner also indicated that the subject matter of claim 16 is allowable. With this reply, Applicant amends claims 1, 16, and 17. Applicant respectfully traverses these rejections for at least the reasons stated below and respectfully requests the Examiner to reconsider and withdraw these rejections.

### **I. Claim Rejections Under 35 U.S.C. § 103(a)**

The Examiner has rejected claims 1, 3–5, 10, 11, 14, 25, 27, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Gitzhofer et al., U.S. Patent No. 5,609,921 ("Gitzhofer") in view of Heinecke et al., U.S. Patent No. 4,824,690 ("Heinecke"). The Examiner has further rejected claims 1–4, 10, 12, 13, 15, 17–21, 24, and 26–31 under 35 U.S.C. § 103(a) as being unpatentable over Goodwin et al., U.S. Patent Application Publication No. 2004/0022945 ("Goodwin") in view of Badyal et al., U.S. Patent No. 6,551,950 ("Badyal"). Additionally, the Examiner rejects claims 6, 7, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Gitzhofer and Heinecke in view of Wang, U.S. Patent No. 5,260,105 ("Wang"). Applicant respectfully traverses these rejections for at least the reasons stated below and requests that the Examiner reconsider and withdraw these rejections.

***A. Claims 1, 3–5, 10, 11, 14, 25, 27, and 30 are not properly rejected under Gitzhofer in view of Heinecke.***

- 1. Examiner's reasoning for modifying Gitzhofer with Heinecke to include the missing claim limitation of claims 1 and 27 is insufficient to establish a *prima facie* case of obviousness.**

Most if not all inventions arise from a combination of old elements. See *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Obviousness is determined from the vantage point of a hypothetical person having ordinary skill in the art to which the patent pertains. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Therefore, an Examiner may often find every element of a claimed invention in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient

to defeat patentability of the whole claimed invention. See *id.* In order to establish a *prima facie* case of obviousness, the Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). **The Examiner must provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.** *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007).

The Examiner admits that Gitzhofer does not teach "that the exciting medium is pulsed" as recited in claim 1 and similarly in claim 27. Office Action (12/19/2006), page 5. The Examiner asserts that Heinecke teaches the above-cited missing claim limitation. *Id.* The Examiner's reasoning for modifying Gitzhofer with Heinecke to include the above-cited claim limitation is "in order to deposit coatings onto a heat sensitive substrate." Office Action (12/19/2006), page 5. The Examiner attempted to clarify this position by stating that "it would have been within the ordinary skill in the art to incorporate the pulsed plasma process of Heinecke . . . when using a heat-sensitive substrate material, such as if one wanted to produce a lighter weight implant." Office Action (4/30/2007), page 6. The Examiner's reasoning is still insufficient to establish a *prima facie* case of obviousness in rejecting claims 1, 3-5, 10, 11, 14, 25, 27, and 30.

The Examiner's reasoning ("in order to deposit coatings onto a heat sensitive substrate") does not provide reasons, as discussed further below, that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would modify Gitzhofer to include the above-indicated missing claim limitation of claims 1 and 27. Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 3-5, 10, 11, 14, 25, 27, and 30. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007); *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

Gitzhofer addresses the problem of having plasma deposition of **particulate materials, such as ceramic and metallic powders**. Column 1, lines 21-30. Particulate materials refers to tiny particles of solid or liquid suspended in a gas. See

<http://en.wikipedia.org/wiki/Particulate>. The Examiner has not provided any reasons as to why one skilled in the art would modify Gitzhofer (which teaches plasma deposition of particulate materials, such as ceramic and metallic powders) to have an exciting medium that is pulsed (missing claim limitation). The Examiner's reasoning ("in order to deposit coatings onto a heat sensitive substrate") does not provide a rational underpinning.

Why would the reason to modify Gitzhofer (whose purpose is to deposit particulate materials, such as ceramic and metallic powders using a plasma deposition method) to have an exciting medium that is pulsed (missing claim limitation) be to deposit coatings onto a heat-sensitive substrate? Gitzhofer is not concerned with depositing inorganic coatings onto a heat sensitive substrate, such as plastics. There is no language in Gitzhofer that even suggests depositing coatings onto a heat sensitive substrate, such as plastics. The Examiner cannot completely ignore the teachings of Gitzhofer in concluding it would have been obvious to modify Gitzhofer to include the missing claim limitation of claims 1 and 27. Hence, the Examiner's reasoning does not provide a rational underpinning for modifying Gitzhofer to include the missing claim limitation of claims 1 and 27. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007). Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1, 3-5, 10, 11, 14, 25, 27, and 30. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007); *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

## **2. Claims 1 and 27 are patentable over Gitzhofer in view of Heinecke**

With this response, Applicant has amended claim 1 to include "chemical activation of the atomised coating forming material," (emphasis added) as recited in claim 1, as amended, and similarly in claim 27, as amended. Gitzhofer teaches a plasma spray method whereby small droplets of a solvent are **physically** heated until melted or vaporized. Gitzhofer, col. 4, lines 51-56. By contrast, the present application claims a method including **chemical** activation of the coating forming material. As described in the specification, this method facilitates the formation of activated precursor species to the coating. (para. 24).

Therefore, Applicant respectfully submits that neither Gitzhofer nor Heinecke, nor the combination thereof, teaches "chemical activation of the atomized coating forming material," as recited in claims 1, as amended, and similarly in claim 27. Applicant submits that claims 1 and 27 are patentable over Gitzhofer in view of Heinecke for at least the reasons stated above, and respectfully requests the Examiner to withdraw the rejections.

**3. Claims 2 and 27 are patentable over Gitzhofer in view of Heinecke**

With respect to claim 2 and claim 27, as amended, neither Gitzhofer nor Heinecke, nor the combination thereof, teaches "the exciting medium is pulsed to significantly retain the chemical properties of the atomised coating forming material," as recited in claim 27, as amended, and similarly in claim 2. In Heinecke, pulsing is used to **increase** disassociation of the precursor (col. 2, lines 42–44). By contrast, in the present invention the exciting medium is pulsed to **reduce** dissociation of the precursor components. (See, e.g., para. 25, "The pulsing of the excitation medium produces coatings that retain the chemical properties of the atomised coating forming material to a far greater extent . . ."). Heinecke, in fact, teaches away from significant retention of the chemical properties of the atomized coating forming material.

Therefore, Applicant respectfully submits that neither Gitzhofer nor Heinecke, nor the combination thereof, teaches "the exciting medium is pulsed to significantly retain the chemical properties of the atomised coating forming material," as recited in claim 27, as amended, and similarly in claim 2. Accordingly, Applicant submits that the subject matter of claim 2 is allowable. Applicant further submits that claim 27 is patentable over Gitzhofer in view of Heinecke for at least the reasons stated above, and respectfully requests the Examiner to withdraw the rejections of claims 2 and 27.

**4. Claims 3–5, 10, 11, 14, and 25 are patentable over Gitzhofer in view of Heinecke for at least the reasons that claim 1 is patentable over Gitzhofer in view of Heinecke.**

Claims 3–5, 10, 11, 14, and 25 each recite combinations of features of independent claim 1, and hence claims 3–5, 10, 11, 14 and 25 are patentable over

Gitzhofer in view of Heinecke for at least the above-stated reasons that claim 1 is patentable over Gitzhofer in view of Heinecke.

- 5. Claim 30 is patentable over Gitzhofer in view of Heinecke for at least the reasons that claim 27 is patentable over Gitzhofer in view of Heinecke.**

Claim 30 recites combinations of features of independent claim 27, and hence claim 30 is patentable over Gitzhofer in view of Heinecke for at least the above-stated reasons that claim 27 is patentable over Gitzhofer in view of Heinecke.

**B. Claims 1–4, 10, 12, 13, 15, 17–21, 24, and 26–31 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Goodwin in view of Badyal.**

- 1. Examiner's reasoning for modifying Goodwin with Badyal to include the missing claim limitation of claims 1 and 27 is insufficient to establish a *prima facie* case of obviousness.**

As stated above, most if not all inventions arise from a combination of old elements. See *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Obviousness is determined from the vantage point of a hypothetical person having ordinary skill in the art to which the patent pertains. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Therefore, an Examiner may often find every element of a claimed invention in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See *id.* In order to establish a *prima facie* case of obviousness, the Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). **The Examiner must provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.** *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007).

The Examiner admits that Goodwin does not teach "that the exciting medium is pulsed" as recited in claim 1 and similarly in claim 27. Office Action (12/19/2006), page 7. The Examiner asserts that Badyal teaches the above-cited missing claim limitation. *Id.* The Examiner's reasoning for modifying Goodwin with Badyal to

include the above-cited claim limitation is "in order to achieve a greater level of structural retention." *Id.* In the April 30, 2007 Office Action, the Examiner stated further that "[t]he coatings with this greater level of structural retention exhibit excellent water and oil repellency." Office Action (4/30/2007), page 7. The Examiner's reasoning is insufficient to establish a *prima facie* case of obviousness in rejecting claims 1-4, 10, 12, 13, 15, 17-21, 24, and 26-31.

The Examiner cites column 4, lines 49-56 of Badyal as support for the Examiner's reasoning. Office Action (12/19/2006), page 7. Badyal teaches that in the case of the polymerization of compounds of formula (III) above, that **low power** pulsed plasma polymerization produces well-adhered coatings that exhibit excellent water and oil repellency. Column 4, lines 49-52. Badyal further teaches that the greater level of structural retention in the case of pulsed plasma polymerization can be attributed to free radical polymerization occurring during the duty cycle off-time and less fragmentation during the on-time. Column 4, lines 53-56. Hence, Badyal teaches that **low power** pulsed plasma polymerization produces well-adhered coatings that exhibit excellent water and oil repellency. There is no language in Badyal (and in particular column 4, lines 49-56) that makes any suggestion of **pulsing the exciting medium** (missing claim limitation) in order to achieve a greater level of structural retention. Instead, Badyal teaches that **low power** pulsed plasma polymerization produces well-adhered coatings that exhibit excellent water and oil repellency. Badyal further teaches that the greater level of structural retention in the case of pulsed plasma polymerization can be attributed to free radical polymerization occurring during the duty cycle off-time and less fragmentation during the on-time. Hence, the Examiner's source of reasoning (column 4, lines 49-56 of Badyal) does not provide reasons as to why one skilled in the art would modify Goodwin to include the missing claim limitation of claims 1 and 27. Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1-4, 10, 12, 13, 15, 17-21, 24, and 26-31. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007); *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

Further, the Examiner's reasoning ("in order to achieve a greater level of structural retention") does not provide reasons, as discussed further below, that the

skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would modify Goodwin to include the above-indicated missing claim limitation of claims 1 and 27. Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1-4, 10, 12, 13, 15, 17-21, 24, and 26-31. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007); *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

Goodwin addresses problems with prior art pulsed plasma treatments, e.g., 1) having the plasma surface treatments require the substrate to be under conditions of reduced pressure, thereby making surface treatments expensive [0003-0004], and 2) loss of the chemical properties of the material used to form the coating [19]. Goodwin overcomes these problem by forming a coating on a substrate using a non-pulsed atmospheric pressure plasma discharge. [0006]. The Examiner has not provided any reasons as to why one skilled in the art would modify Goodwin (which teaches forming a coating on a substrate using a **non-pulsed** atmospheric pressure plasma discharge) to have an exciting medium that is **pulsed** (missing claim limitation). The Examiner's reasoning ("in order to achieve a greater level of structural retention") does not provide a rational underpinning.

Why would the reason to modify Goodwin (whose purpose is to form a coating on a substrate using an atmospheric pressure plasma discharge) to have an exciting medium that is pulsed (missing claim limitation) be to achieve a greater level of structural retention? Goodwin is not concerned with achieving a greater level of structural retention. Further, the Examiner's stated reasoning is somewhat misleading as previously discussed. Badyal teaches that **low power** pulsed plasma polymerization produces well-adhered coatings that exhibit excellent water and oil repellency. Hence, the key question that must be asked is why would the reason to modify Goodwin (whose purpose is to form a coating on a substrate using an atmospheric pressure plasma discharge) to have an exciting medium that is pulsed (missing claim limitation) be to have a **low power** pulsed plasma polymerization producing well-adhered coatings that exhibit excellent water and oil repellency? Goodwin is not concerned with producing well-adhered coatings that exhibit excellent water and oil repellency or in providing a low power pulsed plasma

polymerization. The Examiner cannot completely ignore the teachings of Goodwin in concluding it would have been obvious to modify Goodwin to include the missing claim limitation of claims 1 and 27. Hence, the Examiner's reasoning does not provide a rational underpinning for modifying Goodwin to include the missing claim limitation of claims 1 and 27. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007). Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 1–4, 10, 12, 13, 15, 17–21, 24, and 26–31. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007); *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

**2. Claims 2–4, 10, 12, 13, 15, 17–21, 24, and 26 are patentable over Goodwin in view of Badyal for at least the reasons that claim 1 is patentable over Goodwin in view of Badyal.**

Claims 2–4, 10, 12, 13, 15, 17–21, 24 and 26 each recite combinations of features of independent claim 1, and hence claims 2–4, 10, 12, 13, 15, 17–21, 24, and 26 are patentable over Goodwin in view of Badyal for at least the above-stated reasons that claim 1 is patentable over Goodwin in view of Badyal.

**3. Claims 28–31 are patentable over Goodwin in view of Badyal for at least the reasons that claim 27 is patentable over Goodwin in view of Badyal.**

Claims 28–31 each recite combinations of features of independent claim 27, and hence claims 28–31 are patentable over Goodwin in view of Badyal for at least the above-stated reasons that claim 27 is patentable over Goodwin in view of Badyal.

**4. Claim 12 is patentable over Goodwin in view of Badyal.**

Applicant respectfully asserts that Goodwin and Badyal, taken singly or in combination, do not teach or suggest "that the exciting medium is created by a pulsed flux of ionised particles or radicals" as recited in claim 12. The Examiner cites paragraph [0010] of Goodwin as teaching the above-cited claim limitation. Office Action (12/19/2006), page 6. Applicant respectfully traverses.

Goodwin instead teaches that any conventional means for generating an atmospheric pressure plasma glow discharge may be used in the preset invention, for example atmospheric pressure plasma jet, atmospheric pressure microwave glow discharge and atmospheric pressure glow discharge. [0010]. There is no language in



the cited passage that teaches that the exciting medium is created by a pulsed flux of ionised particles. Neither is there any language in the cited passage that teaches that the exciting medium is created by a pulsed flux of radicals.

Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 12, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

**5. Claim 26 is patentable over Goodwin in view of Badyal.**

Applicant respectfully asserts that Goodwin and Badyal, taken singly or in combination, do not teach or suggest "that the coated substrate is subject to derivatization" as recited in claim 26. As understood by Applicant, the Examiner asserts that Goodwin inherently teaches the above-cited claim limitation as Goodwin allegedly teaches the same substrate material and the same coating forming material. Office Action (12/19/2006), page 6. Applicant respectfully traverses.

The Examiner must provide a basis in fact and/or technical reasoning to support the assertion that by Goodwin allegedly teaching the same substrate material and the same coating forming material that it necessarily implies that Goodwin teaches that the coated substrate is subject to derivatization. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). That is, the Examiner must provide extrinsic evidence that must make clear that by Goodwin allegedly teaching the same substrate material and the same coating forming material that it necessarily implies that Goodwin teaches that the coated substrate is subject to derivatization, and that it would be so recognized by persons of ordinary skill. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Since the Examiner has not provided any such objective evidence, the Examiner has not presented a *prima facie* case of obviousness for rejecting claims 26. M.P.E.P. §2143.

**C. Claims 6, 7, and 22 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Gitzhofer in view of Heinecke and Wang.**

**1. Claims 6, 7, and 22 are patentable over Gitzhofer in view of Heinecke and Wang for at least the reasons that claim 1 is patentable over Gitzhofer in view of Heinecke, as discussed above.**

Claims 6, 7, and 22 each recite combinations of features of independent claim 1, and hence claims 6, 7, and 22 are patentable over Gitzhofer in view of Heinecke

for at least the above-stated reasons that claim 1 is patentable over Gitzhofer in view of Heinecke and Wang.

**2. Gitzhofer, Heinecke and Wang, taken singly or in combination, do not teach or suggest the following claim limitations.**

Applicant respectfully asserts that Gitzhofer, Heinecke and Wang, taken singly or in combination, do not teach or suggest "that the atomised coating forming material is deposited via a nebulizer supplied with coating forming material in the form of a liquid or liquid/solid slurry and a carrier gas" as recited in claim 22. The Examiner cites column 2, lines 47-51 and 55-64 as well as column 4, lines 3-5 of Wang as teaching the above-cited claim limitation. Office Action (12/19/2006), page 8. Applicant respectfully traverses.

Wang instead teaches that it is yet another object of this invention to provide a process for the production of coatings which is suitable for the large-scale production of such coatings. Column 2, lines 47-49. Wang further teaches that it is yet another object of this invention to provide a process for the production of coatings which can be used to produce complex, coated shaped articles. Column 2, lines 50-52. Wang additionally teaches that there is provided an atmospheric process for the production of a coating or a film. Column 2, lines 55-57. Furthermore, Wang teaches that in the first step of the process, an aerosol mist containing reactants necessary to form the coating is provided. Column 2, lines 57-59. Wang further teaches that thereafter, a mist is subjected to radio-frequency radiation while in the plasma region. Column 2, lines 59-60. Furthermore, Wang teaches that during the time solution 10 is being caused to mist, it is preferably contacted with carrier gas to apply a pressure to the solution and mist. Column 4, lines 3-5.

There is no language in the cited passages that teaches that the atomised coating forming material is deposited via a nebulizer. Neither is there any language in the cited passages that teaches that the atomised coating forming material is deposited via a nebulizer supplied with coating forming material in the form of a liquid and a carrier gas. Neither is there any language in the cited passages that teaches that the atomised coating forming material is deposited via a nebulizer supplied with coating forming material in the form of a liquid/solid slurry and a

carrier gas. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 22, since the Examiner is relying upon incorrect, factual predicates in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

**3. Examiner's reasoning for modifying Gitzhofer with Wang to include the missing claim limitation of claim 22 is insufficient to establish a *prima facie* case of obviousness.**

As stated above, most if not all inventions arise from a combination of old elements. See *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Obviousness is determined from the vantage point of a hypothetical person having ordinary skill in the art to which the patent pertains. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Therefore, an Examiner may often find every element of a claimed invention in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See *id.* In order to establish a *prima facie* case of obviousness, the Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The Examiner must provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007).

The Examiner admits that Gitzhofer does not teach or suggest "that the atomised coating forming material is deposited via a nebulizer supplied with coating forming material in the form of a liquid or liquid/solid slurry and a carrier gas" as recited in claim 22. Office Action (12/19/2006), page 7. The Examiner asserts that Wang teaches the above-cited claim limitations. *Id.* at pages 7–8. The Examiner points out that Wang discloses using a nebulizer to disturb a solution and create a mist. However, there is no language in Wang to suggest using a nebulizer to **deposit an atomized coating forming material**. The Examiner's reasoning for modifying Gitzhofer with Wang to include the above-cited claim limitations is "because the carrier gas facilitates the formation of plasma and facilitates the movement of the mist

from the misting chamber to the plasma region." *Id.* at page 8. The Examiner's reasoning is insufficient to establish a *prima facie* case of obviousness in rejecting claim 22.

The Examiner has not provided a source for her reasoning for modifying Gitzhofer to include the above-cited claim limitation. The Examiner simply states "because the carrier gas facilitates the formation of plasma and facilitates the movement of the mist from the misting chamber to the plasma region" as reasoning for modifying Gitzhofer to include the above-cited claim limitation.

The Examiner's reasoning ("because the carrier gas facilitates the formation of plasma and facilitates the movement of the mist from the misting chamber to the plasma region") does not provide a rational underpinning for a conclusion that it would have been obvious to modify Gitzhofer to include the above-indicated missing claim limitation of claim 22. Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claim 22.

Gitzhofer addresses the problem of having plasma deposition of **particulate materials, such as ceramic and metallic powders**. Column 1, lines 21–30. Particulate materials refers to tiny particles of solid or liquid suspended in a gas. See <http://en.wikipedia.org/wiki/Particulate>. Why would the reasons to modify Gitzhofer (which teaches plasma deposition of particulate materials, such as ceramic and metallic powders) to have the atomised coating forming material deposited via a nebulizer supplied with coating forming material in the form of a liquid or liquid/solid slurry and a carrier gas (missing claim limitation) be to facilitate the formation of plasma and facilitate the movement of the mist from the misting chamber to the plasma region? Gitzhofer is not concerned with facilitating the movement of a mist from a misting chamber to a plasma region. The Examiner cannot completely ignore the teachings of Gitzhofer in concluding it would have been obvious to modify Gitzhofer to include the missing claim limitation of claim 22. Hence, the Examiner's reasoning does not provide a rational underpinning for a conclusion of obviousness. Accordingly, the Examiner has not presented a *prima facie* case of obviousness for rejecting claim 22. *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385, 1396 (U.S. 2007).

## **II. Provisional Rejection Under Obviousness-Type Double Patenting**

The Examiner has **provisionally** rejected claim 1 on the ground of the judicially created doctrine of obviousness-type double patenting in view of claim 14 of copending Application No. 10/514,661. Further, the Examiner has **provisionally** rejected claims 6–11, 14, 20–23 and 30 under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1, 5–8, 11 and 15–22 of copending Application No. 10/514,661 in view of Badyal.

Since none of these Applications at issue have been allowed, Applicant defers responding to this rejection.

Applicant notes that if the "provisional" double patenting rejection is the only rejection remaining in an application (either the present application or in Application No. 10/514,661), then the Examiner should withdraw the rejection and permit that application to issue as a patent. M.P.E.P. §804. The "provisional" double patenting rejection may then be converted into a double patenting rejection in the other application at the time the one application issues as a patent. M.P.E.P. §804.

## **III. Allowable Subject Matter**

The Examiner objected to claim 16 as being dependent upon a rejected base claim, but indicated that claim 16 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. With this Reply, Applicant has amended claim 16 to independent form including all of the limitations of the base claim and any intervening claims. Applicant therefore respectfully submits that claim 16, as amended, is allowable.

**CONCLUSION**

For at least the reasons stated above, Applicant assert that claims 1–31 in the Application are in condition for allowance, and Applicant respectfully request an allowance of such claims. Applicant respectfully request that the Examiner call Applicant attorney at the below listed number if the Examiner believes that a discussion would be helpful in resolving any remaining issues.

Respectfully submitted,

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